SANTA CRUZ BIOTECHNOLOGY, INC.

COQ9 (E-3): sc-271892

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Coenzyme Q (COQ), also referred to as ubiquinone, is a fat-soluble component of the electron transport chain that participates in aerobic cellular respiration within mitochondria and is essential for ATP-dependent energy production. COQ9 (coenzyme Q9 homolog) is a 318 amino acid protein that localizes to the mitochondrion and is involved in the synthesis of coenzyme Q. Multiple isoforms of COQ9 exist due to alternative splicing events. The gene encoding COQ9 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Tang, P.H. and deGrauw, T. 2004. Redox cycling of coenzyme Q9 as a new measure of plasma reducing power. Clin. Chem. 50: 1930-1932.
2. Starkov, A.A., et al. 2004. Mitochondrial α-ketoglutarate dehydrogenase complex generates reactive oxygen species. J. Neurosci. 24: 7779-7788.
3. Johnson, A., et al. 2005. COQ9, a new gene required for the biosynthesis of coenzyme Q in *Saccharomyces cerevisiae*. J. Biol. Chem. 280: 31397-31404.

CHROMOSOMAL LOCATION

Genetic locus: COQ9 (human) mapping to 16q21; Coq9 (mouse) mapping to 8 C5.

SOURCE

COQ9 (E-3) is a mouse monoclonal antibody raised against amino acids 165-318 mapping at the C-terminus of COQ9 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COQ9 (E-3) is recommended for detection of COQ9 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for COQ9 siRNA (h): sc-72977, COQ9 siRNA (m): sc-72978, COQ9 shRNA Plasmid (h): sc-72977-SH, COQ9 shRNA Plasmid (m): sc-72978-SH, COQ9 shRNA (h) Lentiviral Particles: sc-72977-V and COQ9 shRNA (m) Lentiviral Particles: sc-72978-V.

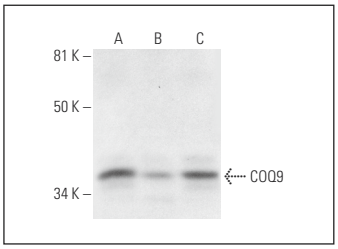
Molecular Weight of COQ9: 36 kDa.

Positive Controls: COQ9 (h2): 293T Lysate: sc-117027, HCT-116 whole cell lysate: sc-364175 or Hep G2 cell lysate: sc-2227.

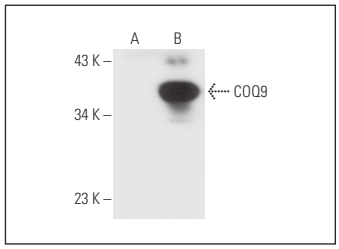
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



COQ9 (E-3): sc-271892. Western blot analysis of COQ9 expression in HCT-116 (**A**), HeLa (**B**) and Hep G2 (**C**) whole cell lysates.



COQ9 (E-3): sc-271892. Western blot analysis of COQ9 expression in non-transfected: sc-117752 (**A**) and human COQ9 transfected: sc-117027 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. García-Corzo, L., et al. 2013. Dysfunctional COQ9 protein causes predominant encephalomyopathy associated with COQ deficiency. Hum. Mol. Genet. 22: 1233-1248.
2. Luna-Sánchez, M., et al. 2015. The clinical heterogeneity of coenzyme Q10 deficiency results from genotypic differences in the COQ9 gene. EMBO Mol. Med. 7: 670-687.
3. Smith, A.C., et al. 2018. A family segregating lethal neonatal coenzyme Q10 deficiency caused by mutations in COQ9. J. Inherit. Metab. Dis. 41: 719-729.
4. Pan, H.Z., et al. 2020. Cold-inducible RNA binding protein agonist enhances the cardioprotective effect of UW solution during extended heart preservation. Artif. Organs 44: E406-E418.
5. Pujol, C., et al. 2021. Implication of folate deficiency in CYP2U1 loss of function. J. Exp. Med. 218: e20210846.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.